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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/535,045	03/24/2000	Walter E. Donovan	NVIDP013	2742

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EXAMINER

WALLACE, SCOTT A

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/535,045

Applicant(s)

DONOVAN ET AL.

Examiner

Scott Wallace

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4,7,9,13-19,25,27,31-35 and 37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-7,9,13,15-19,25,27,31,33-35 and 37 is/are allowed.
- 6) ☒ Claim(s) 14 and 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Arguments

1. Applicant's arguments with respect to claims 14 and 32 have been considered but are moot in view of the new ground(s) of rejection.
2. Claims 14 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malamy et al., in view of Aono et al., U.S. Patent No. 6,034,691 in view of Peercy et al., U.S. Patent No. 5,710,876.
3. As per claims 14 and 32, Malamy et al discloses a method for calculating a level of detail (LOD) value for use during computer graphics processing, comprising: identifying a plurality of geometrically arranged coordinates (column 2 lines 30-39); computing a distance value based on the geometrically arranged coordinates (column 2 lines 30-39); and calculating a LOD value using the distance value for use during computer graphics processing (column 2 lines 30-39). However, Malamy et al does not disclose wherein the LOD value is calculated for cube environment mapping which involves calculating a vector, and using the vector to index into a cube map. This is disclosed in Aono et al in column 1 lines 1-40 and fig 4. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a cube map because this was a common map to use when performing environment mapping. Also, Malamy et al does not disclose wherein the map is selected from the group consisting of a cube map, a latitude/longitude map and a sin(latitude)/longitude map. This is disclosed in Peercy et al in column 19 lines 1-18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have to store the maps in these formats because these were common formats at the time (column 1 lines 15-18).

Allowable Subject Matter

4. Claims 2-3, 6-7, 9, 13, 15-19, 25, 27, 31, 33-35, 37 are allowed.
- The following is a statement of reasons for the indication of allowable subject matter: Prior art of reference fails to teach wherein the derivative value is calculated using the expression $((Z1-Z0)+(Z3-Z2))/2$. The prior art of reference fails to disclose performing a coordinate space transform if the

geometrically arranged coordinates reside on separate sides of the cube map. The prior art of reference fails to disclose determining if a sign of a q-value of a pixel associated with each coordinate is the same. Also prior art of record fails to teach transforming the geometrically arranged coordinates to a different coordinate system (l,m,n), wherein the distance value is estimated using an expression selected from the group of $(l1-l0)exp2 + (m1-m0)exp2 + (n1-n0)exp2$, $(l2-l0)exp2 + (m2-m0)exp2 + (n2-n0)exp2$, $(l3-l0)exp2 + (m3-m0)exp2 + (n3-n0)exp2$, and $(l3-l2)exp2 + (m3-m2)exp2 + (n3-n2)exp2$. The prior art of reference also fails to disclose wherein the LOD is calculated for dependent textures.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Wallace whose telephone number is 703-605-5163. The examiner can normally be reached on Monday thru Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Sumati Lefkowitz, can be reached on 703-306-0403. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SUMATI LEFKOWITZ
PRIMARY EXAMINER